

Towards an Integrated Approach To Engineering Ethics

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The state of play?

Colby and Sullivan

- provision for ethics education is inadequate
- discussion of cases most prevalent
- broad public purposes of engineering receive little attention

“in developing educational efforts to foster ethical development, it is helpful to think about the goals in broad terms”

Broadening?

- Focus on macro issues
- Use social ethics approach
- Use aspirational ethics approach
- Engage more fully with STS
- Engage with the philosophy of technology
- Identification of policy turn
- SD requires the restructuring of social, political, economic and institutional arrangements

YOU MIGHT BE CONFUSED

Paradigms in sociology

Ritzer (see Handout)

- Multi-paradigm discipline
- “fundamental image of the subject matter within a science”
 - What should be studied and what questions should be asked
- Two continua as the basis for four levels of analysis
 - Macro-micro (scale of social phenomena)
 - Objective (real material existence) – subjective (ideas and knowledge)
 - Basis for moving towards integration
- Key is to examine the interrelationship between individuals, groups and wider social forces
 - Are certain events inevitable?

Macro

Macro Objective

social, economic and political structures and public policy

Macro Subjective

goals and values of the profession

Objective

Subjective

Micro Objective

organizational culture and processes

Micro Subjective

consciousness and will power of individual engineers

Micro

Integration should focus on

– Agency/Structure relations

- People make history but not in conditions of their own choosing
- Raising level of analysis not enough
- Structures enable as well as constrain
- People can act to change the social structure: key issue is what resources are available to them to do so

– Theory to action: reflection to practice

- Philosophers have only interpreted the world the point is to change it
- The value of ethics or the values of ethical engineers?
- What are engineers committed to?
- What are scholars committed to?

An integrated approach

“would...examine both the values and commitments of engineers but also their capacity to act on these values and commitments... develop an approach which integrates the different levels of analysis and takes adequate account of the **commitment and power** of engineers to pursue such goals as safety, sustainability and the enhancement of human welfare.”

A focus on macro issues

“does not mean that micro issues disappear but rather highlights the need to widen the analysis to look at how the broader environment enables or constrains the capacity of engineers, for example, to design safe products.”

Safety... is affected by the attitudes and practices of engineers, the organisational culture, the regulatory regime and public policy

Multidisciplinary

“rather than just heading to the philosophy department engineering educators will need to consider the role of the sociology, politics, history and law departments in their efforts to educate socially responsible engineers”.

Can the requirements for teaching ethics be contained within single and discrete modules or should engineering programmes be more fully redesigned to adequately address the challenge of educating socially responsible engineers?